**Grade 5 – Reading Worksheet for Chapter 12,Lesson 2: Our Solar System – ANSWER KEY**

**Part 1** (pp. B142-B144)

1. The Sun is actually a **STAR**, and is the only **STAR** in the solar system.
2. The closer a planet is to the sun, the **SHORTER** its year.
3. Each planet **ROTATES** on it own axis.
4. Some planets are hard and rocky, and some are made largely of **GAS**.
5. When Johann Bode was calculating a scale of planetary distances, he noticed a wide gap between **MARS** and **JUPITER**.
6. Since Bode’s time, astronomers have discovered a belt of more than 10,000 **ASTEROIDS**.
7. The Greeks called the “stars” that were the brightest, **PLANETS**, which comes from the word *wander*.
8. Present-day scientists have the planets classified as “**INNER**” and “**OUTER**”.
9. The Inner planets are: **MERCURY**, **VENUS**, **EARTH** and **MARS**.
10. The inner planets are also called **TERRESTRIAL** planets, which are solid and rocklike.
11. The four outer planets are: **JUPITER**, **SATURN**, **URANUS** and **NEPTUNE**.
12. The outer planets are also called **JOVIAN**, or Jupiter-like, planets.
13. Jovian planets are made of **GAS** and are bigger but less dense than the **TERRESTRIAL** planets.
14. Pluto is unique among all the planets because it is made of a mixture of **ROCK** and **ICE**.
15. Mercury is the second-smallest planet, less than **HALF** the size of Earth.
16. Mercury is surrounded by a very **thin** **layer** of gases, mostly hydrogen, helium, and neon.
17. Temperatures on Mercury soar to more than 425° C in the day and drop to -173° C at night making it the **HOTTEST** planets and the **COLDEST** of the inner planets.
18. Venus is Earth’s close neighbor and was the first to be studied by **SPACE PROBES.**
19. Venus has a thick, cloudy atmosphere that hides its surface and is 97% **CARBON DIOXIDE**.
20. Because Venus is so close to the sun, the sunlight is intense and the **THICK LAYER** of carbon dioxide traps the heat.
21. Venus’ surface temperature can reach **482°** C.
22. Venus still has active **VOLCANOES**, suggesting that there are forces under Venus’ surface that are similar to Earth’s.
23. Venus’s core is **NICKEL** and **IRON**, like Earth’s.

**Part 2 (pp. B146 - B147)**

1. The atmosphere of Mars is similar to Earth’s, it has **CARBON** **DIOXIDE** and small amounts **NITROGEN** and **OXYGEN**.
2. Mars also has very small amounts of water in its atmosphere but it is enough to form **CLOUDS** and **FOG**.
3. The days on Mars are about the same as on Earth but the time it takes Mars to orbit around the sun, a year, is **687** Earth days.
4. The temperature range on Mars is from -21° C in “summer” to -124° C. in “winter” which can freeze carbon dioxide into **ICE CAPS** on Mars’s polar areas.
5. The largest planet in our solar system is **JUPITER** and it is more than 11 times the size of Earth.
6. Jupiter has a very great gravitational attraction for other objects. This allows is to hold **OVER** **60** moons in an orbit around it.
7. Jupiter is a whirling ball of **HYDROGEN** along with small amounts of **METHANE** and **AMMONIA**.
8. The temperature, at cloud level, for Jupiter is -160° C.
9. Jupiter has more in common with the **SUN** than it does with any of the planets.
10. There is a permanent storm on Jupiter called the **GREAT** **RED** **SPOT** that is composed of clouds.
11. Saturn is a gaseous planet composed mostly of **HYDROGEN**.
12. Saturn has drizzling **AMMONIA** rain and more methane in its atmosphere than Jupiter does.
13. The temperature, at cloud level, for Saturn is -180° C
14. Saturn is surrounded by thousands of **rings** held in place by its gravitational attraction with them.
15. Saturn’s rings are composed of particles of **ice** and **rock**.
16. **URANUS** is the third-largest planet, about 4 times the size of Earth.
17. Uranus’ atmosphere is composed mostly of hydrogen, some helium, ammonia, methane and water vapor.
18. The **METHANE** makes Uranus look blue-green from Earth.
19. Below Uranus’ atmosphere, is a scalding ocean of water and **AMMONIA**.
20. Uranus’ temperature at cloud level is -200° C.
21. Uranus’ axis is not in the center of the planet and is tilted more than any other planet, by **82** degrees!
22. Uranus takes about **84** years to complete an orbit.

**Part 3 (pp. B147-B149)**

1. **NEPTUNE** is smaller than Uranus but 4 times larger than Earth.
2. Neptune’s atmosphere contains **METHANE**, hydrogen, and helium.
3. Neptune seems to have continuous, violent **WEATHER** storms.
4. Neptune has at least eight **MOONS** and four **RINGS** made of rock, dust, and ice.
5. Pluto, the dwarf planet, is a mix of **ROCK** and frozen **METHANE** and **AMMONIA** with surface temperatures of -237°C.
6. Pluto has an irregular orbit that sometimes takes it inside **NEPTUNE’S** orbit.
7. Pluto was not discovered until **60** years ago.
8. A **COMET** is a mass of frozen gases, dust, and rocky particles, often called a “dirty snowball”.
9. Comets orbit the sun and when it nears the sun, the heat causes its carbon dioxide ice to vaporize making the comet **BRIGHTER**.
10. The tails of comets are a result of solar wind sweeping them backward away from the sun.
11. **METEOROIDS** are small chunks of matter, possible bits of comets that also orbit the sun.
12. A meteoroid that reaches our atmosphere is called a **METEOR**.
13. When a meteor burns up in our atmosphere, we see a “**SHOOTING** **STAR**”.
14. If a meteor does not get completely burned up in the atmosphere and some of it reaches Earth’s surface, we call it a **METEORITE**.